IN THE CLAIMS:

1. (Original) A chemical diffusion apparatus comprising:

at least one chemical tank for reserving a chemical such as an insect sex pheromone;

a discharging means for discharging the chemical from the chemical tank;

a diffusing means for diffusing the chemical discharged from the discharging means; and

a controlling means for controlling a diffusing operation of the discharging means, wherein

the controlling means carries out drive control by varying diffusion timing and/or discharge volume of the diffusing means on the basis of hours of sunlight or sunset time, which are varied in accordance with a season, latitude and longitude and control of ~~a weather satellite~~an artificial weather controlling apparatus.

2. (Original) The chemical diffusion apparatus according to Claim 1 further comprising:

an environment parameter detecting means for detecting at least one environment parameter of a temperature, humidity, illumination, a wind direction, a wind velocity and a chemical concentration, wherein

the controlling means controls drive of the discharging means on the basis of a detection result of the environment parameter detecting means.

3. (Currently Amended) The chemical diffusion apparatus according to Claim 1 [[or 2]] comprising:

a time detecting means, wherein

the controlling means controls drive of the discharging means on the basis of the time detected by the time detecting means.

4. (Currently Amended) The chemical diffusion apparatus according to ~~any one of Claims 1 to 3~~ claim 1, ~~wherein~~ further including:

~~the~~ a parameter memorizing means includes a self-information memorizing means for holding at least information relating to a place of installation and

the controlling means controls drive of the discharging means on the basis of the information held in the self-information memorizing means.

5. (Currently Amended) The chemical diffusion apparatus according to ~~any one of Claims 1 to 4~~ claim 1, wherein

the chemical tank includes plural tanks reserving respective chemical constituents included in the chemical and

the respective chemical constituents discharged from the respective tanks by means of the discharging means are mixed to form the chemical.

6. (Currently Amended) The chemical diffusion apparatus according to ~~any one of Claims 1 to 4~~ claim 1, wherein

the chemical tank includes plural tanks reserving different chemicals and

the discharging means can discharge the chemicals from the respective tanks individually or simultaneously.

7. (Currently Amended) The chemical diffusion apparatus according to ~~any one of Claims 1 to 6~~ claim 1, wherein

the chemical tank is formed from a material capable of cutting off ultraviolet rays and/or oxygen.

8. (Currently Amended) The chemical diffusion apparatus according to ~~any one of Claims 1 to 7~~ claim 1, wherein

the discharging means is a pump variable in discharge volume of a chemical.

9. (Currently Amended) The chemical diffusion apparatus according to ~~any one of Claims 1 to 7~~ claim 1, wherein

the discharging means includes a chemical pressure chamber supplied with the chemical from the chemical tank, a chemical discharge nozzle communicating with the chemical pressure chamber and an actuator for generating variations in pressure of the chemical in the chemical pressure chamber to discharge liquid drops of the chemical from the chemical discharge nozzle.

10. (Currently Amended) The chemical diffusion apparatus according to ~~any one of Claims 1 to 9~~ claim 1, wherein

the diffusing means includes an evaporating dish for evaporating the chemical or a chemical holding member formed from a porous material or a fibriform material for holding the chemical so as to be capable of natural diffusion.

11. (Currently Amended) The chemical diffusion apparatus according to ~~any one of Claims 1 to 9~~ claim 1, wherein

the diffusing means includes a chemical holding member formed from a porous material or a fibriform material for holding the chemical so as to be capable of natural diffusion and a carrying mechanism for circulating the chemical holding member along a predetermined carrying path.

12. (Currently Amended) The chemical diffusion apparatus according to ~~any one of Claims 1 to 11~~ claim 1 comprising:

a chemical cartridge used as the chemical tank; and

a chemical diffusion unit using the chemical cartridge as a chemical supply source, wherein

the chemical diffusion unit includes a cartridge mounting part for changeably mounting the chemical cartridge, the discharging means, the diffusing means, the environment parameter detecting means and the controlling means.

13. (Original) The chemical diffusion apparatus according to Claim 1 comprising:

a chemical cartridge used as the chemical tank; and

a chemical diffusion unit using the chemical cartridge as a chemical supply source, wherein

the chemical cartridge includes a chemical reservoir part for reserving the chemical and a cartridge side memorizing means for memorizing at least one controlling parameter relating to the chemical diffusing operation,

the chemical diffusion unit includes a cartridge mounting part for changeably mounting the chemical cartridge, the discharging means, the diffusing means, the environment parameter detecting means and the controlling means, and

the controlling means controls drive of the discharging means on the basis of the controlling parameter memorized in the cartridge side memorizing means of the chemical cartridge mounted to the cartridge mounting part.

14. (Original) The chemical diffusion apparatus according to Claim 13, wherein

the chemical diffusion unit includes a unit side memorizing means for memorizing at least one controlling parameter relating to the chemical diffusing operation, the controlling parameter being different from the controlling parameter held in the chemical cartridge and

the controlling means controls drive of the discharging means on the basis of the controlling parameter of the chemical cartridge and the controlling parameter of the chemical diffusion unit.

15. (Currently Amended) The chemical diffusion apparatus according to Claim 13 [[or 14]], wherein

the controlling parameter is at least one of the following (a) to (f):

(a) the kind of the chemical;

(b) the volume and the remaining amount of the chemical;

(c) the kind of a noxious insect subject to extermination by means of the chemical;

(d) the optimum condition for discharging the chemical by means of the discharging means;

(e) location information of the chemical diffusion unit; and

(f) the chemical discharge power of the discharging means.

16. (Original) The chemical diffusion apparatus according to Claim 15, wherein

the controlling parameter held in the chemical cartridge includes at least the optimum condition of discharging the chemical and

the controlling parameter held in the chemical diffusion unit includes at least the location information of the chemical diffusion apparatus.

17. (Currently Amended) The chemical diffusion apparatus according to ~~any one of Claims 13 to 16~~ claim 13, wherein

the controlling means of the chemical diffusion unit is formed around a computer,

the cartridge side memorizing means memorizes a drive controlling program of the controlling means and

the controlling means reads the drive controlling program when the chemical cartridge is mounted, and then, executes the drive controlling program to perform an operation of diffusing the chemical.

18. (Original) The chemical diffusion apparatus according to Claim 17, wherein

the chemical diffusion unit includes a plurality of the cartridge mounting parts and

the controlling means reads the drive controlling program from the chemical cartridge having the first priority determined on the basis of the order of priority of the chemical cartridge, the order of priority of the cartridge mounting part of the chemical diffusion unit or the order of mounting the chemical cartridge.

19. (Currently Amended) The chemical diffusion apparatus according to ~~any one of Claims 13 to 18~~ claim 13, wherein

the chemical cartridge includes a battery power source and

the chemical diffusion unit is supplied with driving power from the battery power source of the chemical cartridge mounted to the cartridge mounting part.

20. (Currently Amended) The chemical diffusion apparatus according to ~~any one of Claims 13 to 19~~ claim 13, wherein

the unit side memorizing means of the chemical diffusion unit memorizes unit identification information for identifying the chemical diffusion unit and information of customer purchasing the chemical diffusion unit and

the controlling means reads the unit identification information and the purchaser information to memorize the same in the cartridge side memorizing means when the chemical cartridge is mounted.

21. (Original) The chemical diffusion apparatus according to Claim 20 including as the cartridge side memorizing means:

a writing apparatus for writing at least one of the control parameters, the drive controlling program or the purchaser information; and

a database construction apparatus for reading the unit identification information and the purchaser information, which are held in the used chemical cartridge, to construct a database relating to the purchasers.

22. (Original) The chemical diffusion apparatus according to Claim [[1]] 2 comprising:

a chemical cartridge used as the chemical tank; and

a chemical diffusion unit using the chemical cartridge as a chemical supply source, wherein

the chemical cartridge includes a chemical reservoir part for reserving the chemical, the diffusing means and/or the chemical supply tube for connecting the chemical reservoir part with the diffusion means and

the chemical diffusion unit includes at least a cartridge mounting part for changeably mounting the chemical cartridge, the environment parameter detecting means and the controlling means.

23. (Original) The chemical diffusion apparatus according to Claim 22, wherein

the discharging means includes a chemical supply pump for supplying the diffusing means with the chemical in the chemical reservoir part,

the chemical supply pump is a tube pump including the chemical supply tube and a driving part for pressuring the chemical supply tube to send out the chemical in the chemical tube and

the chemical supply tube is mounted to the chemical cartridge while the driving part is mounted to the chemical diffusion unit.

24. (Original) The chemical diffusion apparatus according to Claim 22, wherein

the discharging means includes a pressurization mechanism for pressurizing the chemical reserved in the chemical reservoir part and a valve mechanism for opening and closing the chemical supply tube and

the chemical diffusion unit includes the pressurization mechanism and the valve mechanism.

25. (Currently Amended) The chemical diffusion apparatus according to ~~any one of Claims 22 to 24~~ claim 22, wherein

the diffusion means is a chemical holding member formed from a porous material, a fibriform material or the like for holding the chemical discharged from the discharging means so as to be capable of natural diffusion.

26. (Original) The chemical diffusion apparatus according to Claim 22, wherein

the chemical cartridge includes a chemical spray mechanism for diffusing a chemical in the air by means of pressurized gas and

the chemical spray mechanism functions as the discharging means and the diffusing means.

27. (Original) The chemical diffusion apparatus according to Claim 26, wherein

the chemical spray mechanism includes a pressurized gas reservoir part and the pressurized gas nozzle and

the chemical diffusing unit includes an opening/closing mechanism for opening and closing the pressurized gas nozzle.

28. (Currently Amended) The chemical diffusion apparatus according to ~~any one of Claims 22 to 27~~ claim 22, wherein

at least one of the chemical reservoir part, the diffusing means, the chemical supply tube and the pressurized gas reservoir part is changeably mounted to the chemical cartridge.

29. (Currently Amended) A mobile chemical diffusion system comprising:

a chemical diffusion apparatus;

a traveling mechanism to which the chemical diffusion apparatus is mounted; and

a travel controlling means for controlling drive of the traveling mechanism, wherein

the chemical diffusion apparatus is the chemical diffusion apparatus according to ~~any one of Claims 1 to 28~~ claim 1.

30. (Currently Amended) A floating chemical diffusion system comprising:

a chemical spray apparatus; and

a balloon on which the chemical spray apparatus is hung, wherein

the chemical diffusion apparatus is the chemical diffusion apparatus according to ~~any one of Claims 1 to 28~~ claim 1.

31. (Currently Amended) A chemical diffusion system comprising:

plural chemical diffusion apparatuses provided in different places; and

a center controlling means for controlling respective chemical discharging operations of the chemical diffusion apparatuses, wherein

the chemical diffusion apparatus is the chemical diffusion apparatus according to ~~any one of Claims 1 to 28~~ claim 2 and

the center controlling means controls discharge and/or discharge volume of the chemicals in the respective chemical diffusion apparatuses on the basis of a place of installing the respective diffusion apparatuses and a detection result by the environment parameter detecting means of the respective chemical diffusion apparatuses.

32. (Currently Amended) The chemical cartridge according to ~~any one of Claims 12 to 28~~ claim 12.

33. (Currently Amended) The chemical diffusion unit according to ~~any one of Claims 12 to 28~~ claim 12.

Please add the following new claims 34 – 66.

34. (New) A chemical diffusion apparatus comprising:

at least one chemical tank for reserving a chemical such as an insect sex pheromone;

a pump that discharges the chemical from the chemical tank;

a diffuser which that diffuses the chemical discharged from the pump; and

a controller that controls a diffusing operation of the pump wherein

the controller carries out drive control by varying diffusion timing and/or discharge volume of the diffuser on the basis of hours of sunlight or sunset time, which are varied in accordance with a season, latitude and longitude and control of an artificial weather controlling apparatus.

35. (New) The chemical diffusion apparatus according to Claim 34 further comprising:

an environment detector that detects at least one environment parameter of a temperature, humidity, illumination, a wind direction, a wind velocity and a chemical concentration, wherein

the controller controls drive of the pump on the basis of a detection result of the environment parameter detector.

36. (New) The chemical diffusion apparatus according to Claim 34 comprising:

a time detector, wherein

the controller controls drive of the pump on the basis of the time detected by the time detector

37. (New) The chemical diffusion apparatus according to claim 34, further including:

a parameter memorizing apparatus includes a self-information memorizer that holds at least information relating to a place of installation, wherein

the controller controls drive of the pump on the basis of the information held in the self-information memorizer.

38. (New) The chemical diffusion apparatus according to claim 34, wherein

the chemical tank includes plural tanks reserving respective chemical constituents included in the chemical and

the respective chemical constituents discharged from the respective tanks by means of the pump are mixed to form the chemical.

39. (New) The chemical diffusion apparatus according to claim 34, wherein

the chemical tank includes plural tanks reserving different chemicals and

the pump can discharge the chemicals from the respective tanks individually or simultaneously.

40. (New) The chemical diffusion apparatus according to claim 34, wherein

the chemical tank is formed from a material capable of cutting off ultraviolet rays and/or oxygen.

41. (New) The chemical diffusion apparatus according to claim 34, wherein

the pump is variable in discharge volume of a chemical.

42. (New) The chemical diffusion apparatus according to claim 34, wherein the pump includes a chemical pressure chamber supplied with the chemical from the chemical tank, a chemical discharge nozzle communicating with the chemical pressure chamber and an actuator for generating variations in pressure of the chemical in the chemical pressure chamber to discharge liquid drops of the chemical from the chemical discharge nozzle.

43. (New) The chemical diffusion apparatus according to claim 34, wherein the diffuser includes an evaporating dish for evaporating the chemical or a chemical holding member formed from a porous material or a fibriform material for holding the chemical so as to be capable of natural diffusion.

44. (New) The chemical diffusion apparatus according to claim 34, wherein the diffuser includes a chemical holding member formed from a porous material or a fibriform material for holding the chemical so as to be capable of natural diffusion and a carrying mechanism for circulating the chemical holding member along a predetermined carrying path.

45. (New) The chemical diffusion apparatus according to claim 34 comprising:

a chemical cartridge used as the chemical tank; and

a chemical diffusion unit using the chemical cartridge as a chemical supply source, wherein

the chemical diffusion unit includes a cartridge mounting part for changeably mounting the chemical cartridge, the pump, the diffuser, the environment parameter detector and the controller.

46. (New) The chemical diffusion apparatus according to Claim 34 comprising:

a chemical cartridge used as the chemical tank; and

a chemical diffusion unit using the chemical cartridge as a chemical supply source, wherein

the chemical cartridge includes a chemical reservoir part for reserving the chemical and a cartridge side memorizing circuit for memorizing at least one controlling parameter relating to the chemical diffusing operation,

the chemical diffusion unit includes a cartridge mounting part for changeably mounting the chemical cartridge, the pump, the diffuser, the environment parameter detector and the controller, and

the controller controls driving of the pump on the basis of the controlling parameter memorized in the cartridge side memorizing circuit of the chemical cartridge mounted to the cartridge mounting part.

47. (New) The chemical diffusion apparatus according to Claim 46, wherein

the chemical diffusion unit includes a unit side circuit for memorizing at least one controlling parameter relating to the chemical diffusing operation, the controlling parameter being different from the controlling parameter held in the chemical cartridge and

the controller controls drive of the pump on the basis of the controlling parameter of the chemical cartridge and the controlling parameter of the chemical diffusion unit.

48. (New) The chemical diffusion apparatus according to Claim 46, wherein the controlling parameter is at least one of the following (a) to (f):

(a) the kind of the chemical;

(b) the volume and the remaining amount of the chemical;

(c) the kind of a noxious insect subject to extermination by means of the chemical;

(d) the optimum condition for discharging the chemical by means of the pump;

(e) location information of the chemical diffusion unit; and

(f) the chemical discharge power of the pump.

49. (New) The chemical diffusion apparatus according to Claim 48, wherein the controlling parameter held in the chemical cartridge includes at least the optimum condition of discharging the chemical and

the controlling parameter held in the chemical diffusion unit includes at least the location information of the chemical diffusion apparatus.

50. (New) The chemical diffusion apparatus according to claim 13, wherein the controller of the chemical diffusion unit is formed around a computer,

the cartridge side memorizing circuit memorizes a drive controlling program of the controller and

the controller reads the drive controlling program when the chemical cartridge is mounted, and then, executes the drive controlling program to perform an operation of diffusing the chemical.

51. (New) The chemical diffusion apparatus according to Claim 50, wherein

the chemical diffusion unit includes a plurality of the cartridge mounting parts and

the controller reads the drive controlling program from the chemical cartridge having the first priority determined on the basis of the order of priority of the chemical cartridge, the order of priority of the cartridge mounting part of the chemical diffusion unit or the order of mounting the chemical cartridge.

52. (New) The chemical diffusion apparatus according to claim 46, wherein

the chemical cartridge includes a battery power source and

the chemical diffusion unit is supplied with driving power from the battery power source of the chemical cartridge mounted to the cartridge mounting part.

53. (New) The chemical diffusion apparatus according to claim 46, wherein

the unit side circuit of the chemical diffusion unit memorizes unit identification information for identifying the chemical diffusion unit and information of customer purchasing the chemical diffusion unit and

the controller reads the unit identification information and the purchaser information to memorize the same in the cartridge side memorizing circuit when the chemical cartridge is mounted.

54. (New) The chemical diffusion apparatus according to Claim 53 including as the cartridge side memorizing circuit:

a writing apparatus for writing at least one of the control parameters, the drive controlling program or the purchaser information; and

a database construction apparatus for reading the unit identification information and the purchaser information, which are held in the used chemical cartridge, to construct a database relating to the purchasers.

55. (New) The chemical diffusion apparatus according to Claim 35 comprising:

a chemical cartridge used as the chemical tank; and

a chemical diffusion unit using the chemical cartridge as a chemical supply source, wherein

the chemical cartridge includes a chemical reservoir part for reserving the chemical, the diffuser and/or the chemical supply tube for connecting the chemical reservoir part with the diffuser and

the chemical diffusion unit includes at least a cartridge mounting part for changeably mounting the chemical cartridge, the environment parameter detector and the controller.

56. (New) The chemical diffusion apparatus according to Claim 55, wherein

the pump includes a chemical supply pump for supplying the diffuser with the chemical in the chemical reservoir part,

the chemical supply pump is a tube pump including the chemical supply tube and a driving part for pressuring the chemical supply tube to send out the chemical in the chemical tube and

the chemical supply tube is mounted to the chemical cartridge while the driving part is mounted to the chemical diffusion unit.

57. (New) The chemical diffusion apparatus according to Claim 55, wherein

the pump includes a pressurization mechanism for pressurizing the chemical reserved in the chemical reservoir part and a valve mechanism for opening and closing the chemical supply tube and

the chemical diffusion unit includes the pressurization mechanism and the valve mechanism.

58. (New) The chemical diffusion apparatus according to claim 55, wherein

the diffuser is a chemical holding member formed from a porous material, a fibriform material or the like for holding the chemical discharged from the pump so as to be capable of natural diffusion.

59. (New) The chemical diffusion apparatus according to Claim 55, wherein

the chemical cartridge includes a chemical spray mechanism for diffusing a chemical in the air by means of pressurized gas and

the chemical spray mechanism functions as the pump and the diffuser.

60. (New) The chemical diffusion apparatus according to Claim 59, wherein

the chemical spray mechanism includes a pressurized gas reservoir part and the pressurized gas nozzle and

the chemical diffusing unit includes an opening/closing mechanism for opening and closing the pressurized gas nozzle.

61. (New) The chemical diffusion apparatus according to claim 55, wherein

at least one of the chemical reservoir part, the diffuser, the chemical supply tube and the pressurized gas reservoir part is changeably mounted to the chemical cartridge.

62. (New) A mobile chemical diffusion system comprising:

a chemical diffusion apparatus;

a traveling mechanism to which the chemical diffusion apparatus is mounted; and

a travel controller that controls drive of the traveling mechanism, wherein

the chemical diffusion apparatus is the chemical diffusion apparatus according to claim 34.

63. (New) A floating chemical diffusion system comprising:

a chemical spray apparatus; and

a balloon on which the chemical spray apparatus is hung, wherein

the chemical diffusion apparatus is the chemical diffusion apparatus according to claim 34.

64. (New) A chemical diffusion system comprising:

plural chemical diffusion apparatuses provided in different places; and

a center controller that controls respective chemical discharging operations of the chemical diffusion apparatuses, wherein

the chemical diffusion apparatus is the chemical diffusion apparatus according to claim 35 and

the center controller controls discharge and/or discharge volume of the chemicals in the respective chemical diffusion apparatuses on the basis of a place of installing the respective diffusion apparatuses and a detection result by the environment parameter detector of the respective chemical diffusion apparatuses.

65. (New) The chemical cartridge according to claim 55.

66. (New) The chemical diffusion unit according to claim 55.